CLAIMS

1. A capacitance type sensor characterized in that the sensor comprises:

a conductive member;

a capacitance element electrode cooperating with the conductive member to form a first capacitance element; and

a reference electrode electrically connected to the conductive member and kept at a ground potential or another fixed potential;

the sensor can detect an externally applied force on the basis of detection of a change in the capacitance value of the first capacitance element by utilizing a signal input to the capacitance element electrode; and

the sensor comprises two capacitance element electrodes in a pair, and output signals corresponding to signals input to a circuit including one of the capacitance element electrodes and a circuit including the other of the capacitance element electrodes, respectively, are detected by a signal processing circuit having hysteretic characteristics.

2. The capacitance type sensor according to claim 1, characterized in that a second capacitance element is formed between the reference electrode and the conductive

member.

3. A capacitance type sensor characterized in that the sensor comprises:

a substrate that provides an XY plane of an XYZ three-dimensional coordinate system defined;

a detective member being opposed to the substrate;

a conductive member disposed between the substrate and the detective member so as to be Z-axially displaceable in accordance with Z-axial displacement of the detective member;

a capacitance element electrode formed on the substrate to cooperate with the conductive member to form a first capacitance element; and

a reference electrode formed on the substrate to cooperate with the conductive member to form a second capacitance element, and kept at a ground potential or another fixed potential;

the first and second capacitance elements are connected in series in relation to a signal input to the capacitance element electrode, and displacement of the detective member can be detected on the basis of detection of a change in the capacitance value of the first capacitance element caused by a change in the interval between the conductive member and the

capacitance element electrode; and

the sensor comprises two capacitance element electrodes in a pair, and output signals corresponding to signals input to a circuit including one of the capacitance element electrodes and a circuit including the other of the capacitance element electrodes, respectively, are detected by a signal processing circuit having hysteretic characteristics.

4. The capacitance type sensor according to claim 3, characterized in that the capacitance element electrode includes a pair of first capacitance element electrodes disposed symmetrically with respect to a Y axis, a pair of second capacitance element electrodes disposed symmetrically with respect to an X axis, and a third capacitance element electrode disposed near an origin.

5. The capacitance type sensor according to any of claims 1 to 4, characterized in that a threshold value of the signal processing circuit for an input signal increasing is higher than a threshold value of the signal processing circuit for the input signal decreasing.

6. The capacitance type sensor according to any of claims 1 to 5, characterized in that a Schmitt trigger type logic element is utilized in the signal processing circuit.

7. The capacitance type sensor according to claim 6, characterized in that the Schmitt trigger type logic element performs an exclusive OR operation.

8. The capacitance type sensor according to claim 6, characterized in that the Schmitt trigger type logic element performs an OR operation.

9. The capacitance type sensor according to claim 6, characterized in that the Schmitt trigger type logic element performs an AND operation.

10. The capacitance type sensor according to claim 6, characterized in that the Schmitt trigger type logic element performs a NAND operation.

11. The capacitance type sensor according to any of claims 1 to 5, characterized in that a Schmitt trigger type buffer element is utilized in the signal processing circuit.

12. The capacitance type sensor according to any of claims 1 to 5, characterized in that a Schmitt trigger type inverter element is utilized in the signal processing circuit.

13. The capacitance type sensor according to any of claims 1 to 5, characterized in that a hysteresis comparator is utilized in the signal processing circuit.

14. The capacitance type sensor according to any of

claims 1 to 13, characterized in that signals different from each other in phase are supplied to the circuit including one of the capacitance element electrodes and the circuit including the other of the capacitance element electrodes.

15. The capacitance type sensor according to any of claims 1 to 14, characterized in that a CR circuit including one of the capacitance element electrodes and another CR circuit including the other of the capacitance element electrodes are different from each other in time constant.

16. The capacitance type sensor according to any of claims 1 to 15, characterized in that the signal is a signal in which a high level and a low level are periodically repeated, and the sensor further comprises a control element having a function of discharging the first capacitance element when the signal is at the low level.

17. The capacitance type sensor according to claim 16, characterized in that an open collector type inverter element is used as the control element.